

29. A process of substantially preventing the formation of at least one nitrosamine in a harvested tobacco plant, the process comprising:

drying at least a portion of the plant, while said portion is uncured, yellow, and in a state susceptible to having the formation of nitrosamines arrested, in a controlled environment and for a time sufficient to substantially prevent the formation of said at least one nitrosamine;

wherein said controlled environment comprises air substantially free of combustion exhaust gases and an airflow sufficient to substantially prevent an anaerobic condition around the vicinity of said plant portion;

wherein said controlled environment is provided by controlling at least one of humidity, temperature, and airflow; and

wherein, following said drying in said controlled environment, the plant portion has a content of at least one tobacco-specific nitrosamine selected from the group consisting of N'-nitrosonornicotine, 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone, N'-nitrosoanatabine, and N'-nitrosoanabasine which at least 75% by weight lower than the content of said at least one tobacco-specific nitrosamine in cured brown tobacco made from the same tobacco crop but which was cured in the absence of steps designed to reduce the content of said at least one nitrosamine.

30. The process of claim 29, wherein the at least one tobacco-specific nitrosamine is 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone.

31. The process of claim 29, wherein said content of at least one tobacco-specific nitrosamine is at least about 90% by weight lower than the content of said at least one tobacco-specific nitrosamine in said cured brown tobacco.

32. The process of claim 31, wherein said content of at least one tobacco-specific nitrosamine is at least about 95% by weight lower than the content of said at least one tobacco-specific nitrosamine in said cured brown tobacco.

33. The process of claim 31 wherein the tobacco is selected from the group consisting of flue varieties, Burley varieties, and oriental/Turkish varieties.

34. The process of claim 31, wherein the airflow is at least about 70 CFM at 1" static pressure per cubic foot of volume.

35. The process of claim 34, wherein the airflow is at least about 80 CFM at 1" static pressure per cubic foot of volume.

36. The process of claim 31, wherein the air is dehumidified to less than about 85%.

37. The process of claim 36, wherein the air is dehumidified to less than about 60%.

38. The process of claim 37, wherein the air is dehumidified to less than about 50%.

39. A process of substantially preventing the formation of at least one nitrosamine in a tobacco plant, the process comprising:

heating at least a portion of a tobacco plant with convection air while said portion is uncured, yellow, and in a state susceptible to having formation of said at least one nitrosamine arrested, for a time sufficient to substantially prevent formation of said at least one nitrosamine;

wherein said convection air is substantially free of combustion exhaust gases and substantially prevents an anaerobic condition around the vicinity of said plant; and

wherein, following said heating with convection air, the plant portion has a content of at least one tobacco-specific nitrosamine selected from the group consisting of N'-nitrosonornicotine, 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone, N'-nitrosoanatabine, and N'-nitrosoanabasine which at least 75% by weight lower than the content of said at least one tobacco-specific nitrosamine in cured brown tobacco made from the same tobacco crop but which was cured in the absence of steps designed to reduce the content of said at least one nitrosamine.

40. The process of claim 39, wherein the at least one tobacco-specific nitrosamine is 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone.

41. The process of claim 39, wherein said content of at least one tobacco-specific nitrosamine is at least about 90% by weight lower than the content of said at least one tobacco-specific nitrosamine in said cured brown tobacco.

42. The process of claim 41, wherein said content of at least one tobacco-specific nitrosamine is at least about 95% by weight lower than the content of said at least one tobacco-specific nitrosamine in said cured brown tobacco.

43. The process of claim 39 wherein the tobacco is selected from the group consisting of flue varieties, Burley varieties, and oriental/Turkish varieties.

44. The process of claim 39, wherein the air is heated to a temperature of from about 100°F to about 250°F.

45. The process of claim 44, wherein the temperature is from about 160°F to about 170°F.

46. A process of substantially preventing the formation of at least one nitrosamine in a harvested tobacco plant, the process comprising:

drying at least a portion of the plant, while said portion is uncured, yellow, and in a state susceptible to having the formation of nitrosamines arrested, in a controlled environment and for a time sufficient to substantially prevent the formation of said at least one nitrosamine;

wherein said controlled environment comprises a flow of air sufficient to avoid an anaerobic condition around the vicinity of said plant portion;

wherein said controlled environment is provided by controlling at least one of humidity, temperature, and airflow; and

wherein, following said drying in said controlled environment, the plant portion has a content of at least one tobacco-specific nitrosamine selected from the group consisting of N'-nitrosanornicotine, 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone, N'-nitrosoanatabine, and N'-nitrosoanabasine which at least 75% by weight lower than the content of said at least one tobacco-

specific nitrosamine in cured brown tobacco made from the same tobacco crop but which was cured in the absence of steps designed to reduce the content of said at least one nitrosamine.

47. The process of claim 46, wherein the at least one tobacco-specific nitrosamine is 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone.

48. The process of claim 46, wherein said content of at least one tobacco-specific nitrosamine is at least about 90% by weight lower than the content of said at least one tobacco-specific nitrosamine in said cured brown tobacco.

49. The process of claim 48, wherein said content of at least one tobacco-specific nitrosamine is at least about 95% by weight lower than the content of said at least one tobacco-specific nitrosamine in said cured brown tobacco.

50. The process of claim 46, wherein the air is dehumidified to less than about 85%.

51. The process of claim 50, wherein the air is dehumidified to less than about 60%.

52. The process of claim 51, wherein the air is dehumidified to less than about 50%.

53. The process of claim 46, wherein the airflow is at least about 70 CFM at 1" static pressure per cubic foot of volume.

54. The process of claim 53, wherein the airflow is at least about 80 CFM at 1" static pressure per cubic foot of volume.

55. A process of substantially preventing the formation of at least one nitrosamine in a tobacco plant, the process comprising:

heating at least a portion of a tobacco plant with a flow of air while said portion is uncured, yellow, and in a state susceptible to having formation of said at least one nitrosamine arrested, for a time sufficient to substantially prevent formation of said at least one nitrosamine;

wherein said flow of air is sufficient to avoid an anaerobic condition around the vicinity of said plant portion; and

wherein, following said drying in said controlled environment, the plant portion has a content of at least one tobacco-specific nitrosamine selected from the group consisting of N'-nitrosonornicotine, 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone, N'-nitrosoanatabine, and N'-nitrosoanabasine which at least 75% by weight lower than the content of said at least one tobacco-specific nitrosamine in cured brown tobacco made from the same tobacco crop but which was cured in the absence of steps designed to reduce the content of said at least one nitrosamine.

56. The process of claim 55, wherein the at least one tobacco-specific nitrosamine is 4-(N-nitrosomethylamino)-1-(3-pyridyl)-1-butanone.

57. The process of claim 55, wherein said content of at least one tobacco-specific nitrosamine is at least about 90% by weight lower than the content of said at least one tobacco-specific nitrosamine in said cured brown tobacco.

58. The process of claim 57, wherein said content of at least one tobacco-specific nitrosamine is at least about 95% by weight lower than the content of said at least one tobacco-specific nitrosamine in said cured brown tobacco.

59. The process of claim 55 wherein the tobacco is selected from the group consisting of flue varieties, Burley varieties, and oriental/Turkish varieties.

60. The process of claim 55, wherein the air is heated to a temperature of from about 100°F to about 250°F.

61. The process of claim 60, wherein the temperature is from about 160°F to about 170°F.